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**BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES**

Application Number: 10/625,063
Filing Date: July 22, 2003
Appellant(s): PULLELA ET AL.

MAILED

JAN 07 2008

Technology Center 2100

Kirk D. Williams #42229
For Appellant

EXAMINER'S ANSWER

This is in response to the appeal brief filed 10/26/2007 appealing from the Office action mailed 3/21/2007.

(1) Real Party in interest

A statement identifying by name the real party interest is contained in the brief.

(2) Related Appeals and Interferences

The examiner is not aware of any related appeals, interferences, or judicial proceedings which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

(3) Status of Claims

The statement of the status of claims contained in the brief is incorrect.

A correct statement of the status of the claims is as follows:

Claims 1,3,9,11,13,18-19,21,26 have been canceled.

Claims 8,30-32 are objected to as being dependent upon a rejected base claim(s), but would be allowable if rewritten in independent form including all of the limitations of the base claim(s) and any intervening claims.

The claims on appeal are all rejected claims, claims 2,4-8,10,12,14-17,20,22-25.

(4) Status of Amendments After Final

No amendment after final has been filed.

(5) Summary of Claimed Subject Matter

The summary of claimed subject matter contained in the brief is correct.

(6) Grounds of Rejection to be Reviewed on Appeal

The appellant's statement of the grounds of rejection to be reviewed on appeal is not correct. Examiner notes that Claims 2,4-7,10,12,14-17,20,22-25, and 28-29 are rejected under 35 USC 102(e) as being anticipated by Ikeda et al, US Patent 6788683.

(7) Claims Appendix

The copy of the appealed claims contained in the Appendix to the brief is correct.

(8) Evidence Relied Upon

US 6788683 Ikeda et al 9-2004

(9) Grounds of Rejection

The following ground(s) of rejection are applicable to the appealed claims:

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the Appellant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 2,4-7,10,12,14-17,20,22-25, and 28-29 are rejected under 35 U.S.C. 102 (e) as being anticipated by Ikeda et al (US 6788683).

As in claim 2, Ikeda describes a method for processing packets, the method comprising:
Identifying a flow identification value based on one or more field extracted from the packet
(Ikeda's Fig 1: #21 VPI/VCI represents a field extracted from the packet and using as identifying
a flow identification value, see Ikeda column 7 lines 50-55); performing a lookup operation in
one or more memories or associative memories (Ikeda's Fig 1: #3 lookup retrieval table #24 in

one or more memories or associative memories #24, #29 #5 #7) using a lookup value generated based on the flow identifying value, the lookup value including the flow identification value (Ikeda's Fig 1: #21 VPI/VCI represents a lookup value generated/extracted based on a field extracted from the packet; Ikeda's column 7 lines 35-55 further discloses various fields in the packet can be considered as flow identification value (i.e flow retrieval key value, including VPI/VCI) in order to identifying a flow identification value mask (Ikeda's Fig 1: #26 retrieval key; column 3 lines 20-32), masking the flow identification value with the flow identification value mask to generate a masked flow identification value (Ikeda's Fig 1: #26 retrieval key; column 3 lines 20-30; Ikeda's Fig 4: #4 column 8 lines 12-24 the retrieval key mask section masks fields of the packets to provide post-mask retrieved key value); and processing the packet or another packet based on the masked flow identification value (Ikeda's Fig 1: #5, #7 discloses the post-mask retrieved key value, corresponding to the claim's masked flow identification, being used to further processing the packet).

As in claim 4, Ikeda describes wherein the flow identification value includes at least two items of the list consisting of source address, destination address, source port, destination port, and protocol type (Ikeda's Fig 2 shows the retrieve flag to mask corresponding fields in the packet header such as source address, destination address).

As in claim 5, Ikeda describes wherein the flow identification value includes a transport layer, session layer, presentation layer or application layer value (Ikeda's column 1, lines 47-55).

As in claim 6, Ikeda discloses wherein said one or more memory memories or associative memories tangibly store entries representing an access control list with said entries include processing indications of permit and deny operation (Ikeda's Fig 2: #flow action table includes

flow action information indicating priorities such as forwarding, delay, reject operations, see Ikeda's column 10 lines 64-68; corresponding to the claim's permit and deny operations); and wherein said performing said lookup operation includes performing said lookup operation on said access control list entries (Ikeda's column 10 lines 47-58 discloses performing the lookup operation including looking up for priority information as entries in the forwarding/flow action table)

As in claim 7, Ikeda discloses wherein said performing the lookup operation based on the flow identification value includes: performing a first lookup operation on a first set of associative memory entries based on the flow identification value to generate an associative memory result; and performing a second lookup operation in an adjunct memory based on the associative memory result to identify the flow identification value mask. Examiner notes that the claim describing a lookup function of a content addressable memory and retrieving data from its associating ram portion.

Examiner notes that the above claim's limitations describing functions of a content addressable memory that requires a matching function of a key value and a retrieving data function to retrieve data. Ikeda discloses the retrieval flag table storing a key such as logical link number to match with a field in the receiving packet; once the matching is found the retrieve flag value is retrieved, corresponding to the input link value (Ikeda's column 3 lines 5-11); Ikeda further discloses a CAM must be used to retrieve data based on a matching input (Ikeda's column 2 lines 30-40, CAM determines **matching content and not matching address**). Therefore, Ikeda clearly discloses the retrieval flag table performing the matching function and the retrieving function as claimed.

As in claim 10, Ikeda discloses an apparatus for processing packets, the apparatus comprising:

A packet processing engine configured to identify a packet and a flow identification value based on the packet (Ikeda's Fig 1: #8, #9 packet /cell transmission and processing engines); an associative memory configured to perform a second a first look up operation with a lookup value including the flow identification value to identifying a matching function (Ikeda's column 7 lines 35-looking up the retrieval flag table with a field including the flow identification values (i.e lookup key value is a field in several fields of a packet) to identifying a matching; an adjunct memory configured to perform a second lookup operation based on the matching to identify a flow identification value mask (Ikeda's Fig 1: retrieve flag table employed looking up and matching a key value to identifying a flow identification value mask, (i.e Fig 1: #26 retrieval flag);

Examiner notes that the above claim's limitations describing functions of a content addressable memory that requires a matching function of a key value and a retrieving data function to retrieve data. Ikeda discloses the retrieval flag table storing a key such as logical link number to match with a field in the receiving packet; once the matching is found the retrieve flag value is retrieved, corresponding to the input link value (Ikeda's column 3 lines 5-11); Ikeda further discloses a CAM must be used to retrieve data based on a matching input (Ikeda's column 2 lines 30-40, CAM determines **matching content and not matching address**). Therefore, Ikeda clearly discloses the retrieval flag table performing the matching function and the retrieving function as claimed.

Ikeda further discloses masking logic configured to mask the flow identification value with the flow identification value mask to generate a masked flow identification value mask (Ikeda's Fig 1: #4);

Ikeda further disclose a value memory configured to update a value at a position corresponding to the masked flow identification value (Ikeda's column 10 lines 57-63 discloses the packet transmission and processing section changes the TOS values and storing in the memory associated with the created packet).

Claim 12 rejected based on the same rationale as in the rejection of claim 2.

As in claim 14, Ikeda discloses the flow identification value includes at least two items of the list consisting of source address, destination address, source port, destination port and protocol (Ikeda's column 1 lines 47-55 discloses several items being used as flow identification values include source address, destination address etc..).

As in claim 15, Ikeda discloses the flow identification value includes a transport layer, session layer, presentation layer or application layer values (Ikeda's column 1 lines 47-55).

Claim 16 rejected based on the same rationale as in the rejection of claim 6.

Claim 17 rejected based on the same rationale as in the rejection of claim 7.

Claim 20 rejected based on the same rationale as in the rejection of claim 2.

Claim 22 rejected based on the same rationale as in the rejection of claim 4.

Claim 23 rejected based on the same rationale as in the rejection of claim 5.

Claim 24 rejected based on the same rationale as in the rejection of claim 6.

Claim 25 rejected based on the same rationale as in the rejection of claim 7.

As in claims 26-27, the claims recite means for processing the packet based on the masked flow identification value (claim 26); processing the packet based on said generated masked flow identification value (claim 27). Ikeda's Fig 1 discloses a flow processing device that processes the packet based on the masked flow identification value (based on concatenated value of fields/parts VPI/VCI, flow retrieval key etc..).

As in claims 28-29, the claims recite the packet processing engine is configured to process the packet based on the masked flow identification value (claim 28); wherein said step includes: processing the packet based on said generated masked flow identification value (claim 29). Ikeda's Fig 1: #5 shows the flow processing device process the packet based on the masked flow identification value (Ikeda's Fig 1 processes the retrieval key that corresponds to the masked flow identification value).

Allowable Subject Matter

Claims 8,30-32 are objected to as being dependent upon a rejected base claim(s), but would be allowable if rewritten in independent form including all of the limitations of the base claim(s) and any intervening claims.

(10) Response to Argument

Appellant's arguments in response to the last office action has been fully considered but they are not persuasive. Examiner respectfully traverses Appellant's arguments for the following reasons:

A) Appellant's arguments regarding the rejection of claim 2 under 35 U.S.C 102(e) are not persuasive.

Appellant argues that Ikeda's VPI/VCI field in the header portion of an ATM cell is not "a flow identification value based on one or more fields extracted from a packet" as recited in the claim. Examiner disagrees. When user data is transferred in a network, it is typically sent in a packet. The packet is defined as a group of binary digits including of user data and control elements which is switched and transmitted as a composite whole. The data and control elements and possibly error control information are arranged in a specified format (The Authoritative dictionary of IEEE standards terms seven edition December 2000, page 787 attached).

Typically, user data transferred over the network may be encapsulated in a packet using several protocol layers, by means of data encapsulation. Data encapsulated in a TCP layer/packet may be further encapsulated in an IP layer/packet. And data in an IP layer/packet may be further encapsulate in an Ethernet Frame/packet and/or ATM cell/packet and so on.. For each layer of encapsulation, information (fields) are added to the packet header portion to provide additional identifying information such as source destination addresses fields , protocol field corresponding with each layer. Information in the header portion of the packet are used by processing elements to direct/flow the packet to proper destination and accordingly to layers of protocols that encapsulate the user data. Thus the information in the header portion is the flow identification value. In other words, in Ikeda, the packet header comprises of the header portion of an ATM cell/layer and the header portion of IP packet/layer etc.. is the flow identification value, and the VPI/VCI field of the header portion of the ATM cell/layer is the flow

identification value. Thus, Ikeda teaches the flow identification value as claimed, therefore Applicant's arguments are not persuasive.

Appellant further argues that "ATM cell information is being discarded.." and using an example of packages of two delivery services, FedEx and UPS. The example is based on the assumption that the content of the package must be either "FedEx" type or "UPS" type. However, it's not the case for user data that are being "encapsulated" as the packet of TCP type, IP type and/or ATM cell type. Because of the nature of encapsulation there is only one physical packet travels in the network. Each has a user data and header portion with information relating to several layers/protocols. Thus there is no discarding of this packet, instead various fields in the header of this packet are used to flow the data properly to the destination.

In addition, Examiner submits that ATM cell reads on the packet as defined by Appellant's own definition, specification page 5 lines 21-26, "As used herein, the term "packet" refers to packets of all types or any other units of information or data, including, but not limited to, **fixed length cells** and variable length packets, each of which may or may not be divisible into smaller **packets or cells**. The term "packet" as used herein also refers to both the packet itself or a packet indication, such as, but not limited to all or part of a packet or packet header, a data structure value, pointer or index, or any other part or identification of a packet. Moreover, these packets may contain other unit or piece of information or data, a device, component, element, or any other entity".

B) Appellant further argues that "Appellant can find no support in Ikeda et al for the proposition that the received VPI/VCI 21 is both used to determined that masked, and masked by the determined mask..". Examiner disagrees.

Again, as discussed in the above item B, Ikeda teaches that the packet header is the flow identifying value. And the packet header/"flow identifying values" comprises fields such as VPI/VCI 21 and flow retrieval key 25. Therefore both of these fields is the claimed "flow identifying value". Ikeda further teaches that the "flow identifying value" VPI/VCI is used to determine the mask (lookup and retrieving the flag, Fig 1), this retrieved flag is used to mask the "flow identifying value"/flow retrieval key (see Ikeda's Figs 7, 9, binary bit value of the mask/retrieving flag masks binary bit value of the "flow identifying value"/flow retrieving key 25). Therefore, Ikeda clearly teaches that the flow identifying value is used to determine the mask and masked by the determined masked value, as recited in the claims.


(11) Related Proceeding(s) Appendix

No decision rendered by a court or the Board is identified by the examiner in the Related Appeals and Interferences section of this examiner's answer.

For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,

/ Duc T. Doan/
Duc T. Doan
Examiner
Art Unit 2188


HYUNG S. SOUGH
SUPERVISORY PATENT EXAMINER
01/04/08

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Attachment:

The Authoritative dictionary of IEEE standards terms seven edition December 2000